

BASS HARBOR

MAINE

PRELIMINARY EXAMINATION



CORPS OF ENGINEERS, U. S. ARMY
OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION, BOSTON, MASS.

JANUARY 31, 1957

28

NOT FOR PUBLIC RELEASE

/PRELIMINARY EXAMINATION

BASS HARBOR
TREMONT, MAINE/

SYLLABUS

The Division Engineer finds that probable economic benefits to fishing commerce resulting from the provision of more adequate anchorage areas in Bass Harbor are sufficient to warrant a survey thereof to determine the extent and cost of anchorage areas needed and the Federal interest therein.

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OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION
150 CAUSEWAY STREET
BOSTON 14, MASS.

NEDGW

31 January 1957

SUBJECT: Preliminary Examination on Bass Harbor, Tremont, Maine.

TO: Chief of Engineers, Department of the Army, Washington 25, D.C.

AUTHORITY

1. This report is submitted in compliance with an item in the River and Harbor Act of 1950 which directed that "a preliminary examination and survey be made ... at Bass Harbor, Maine."
2. A report of preliminary examination scope was authorized by the Chief of Engineers on June 7, 1950.

SCOPE OF EXAMINATION

3. In the preparation of this report consideration of the locality has been limited to field reconnaissance, and to office study of data obtained from existing records, available maps, local representatives, and as the result of a public hearing. No detailed field work has been undertaken.

DESCRIPTION

4. Bass Harbor is located on the southwest side of Mount Desert Island on the eastern side of the entrance to Blue Hill Bay, about 7 miles by water southwest of Southwest Harbor.
5. The Harbor consists of an outer and inner harbor, the outer harbor being a rectangular bay about 1,500 yards wide at the entrance between Bass Harbor Head on the east and Lopaus Point on the west, and the inner harbor being a long narrow inlet extending northward from the head of this bay. Depths in the outer harbor range from 30 to 46 feet at mean low water. The inner harbor has a total area of approximately 200 acres about 75 percent of which is bare at low water. A winding channel varying in width from 100 to 300 feet with depths of 6 to 26 feet extends northward through the harbor between steep banks and shoal

areas. The entrance to the outer harbor is clear except for Weaver Ledge located in the middle of the entrance and bare at low water. The Ledge is buoyed, however, and the channel to either side has ample depth. The entrance to the inner harbor is likewise marked by buoys.

6. Although the outer harbor is exposed to the south, the inner harbor is well protected. Prevailing winds are southerly during the summer and northwesterly during the winter. The mean range of tide is 9.9 feet. The locality is shown on the Coast and Geodetic Survey Charts Nos. 307, 308 and 1202 and on the map accompanying this report.

TRIBUTARY AREA

7. The area immediately tributary to Bass Harbor consists of the villages of McKinley and Bernard on the east and west side, respectively, of the inner harbor, both located within the town of Tremont in Hancock County. In 1950 the town of Tremont had a population of 1,115 and an assessed valuation of \$515,135, the latter having risen by about 20 percent to \$621,500 in 1956. During the period from 1940 to 1950 the population of Hancock County declined slightly more than 1 percent while that of the town of Tremont remained virtually constant.

8. The fishing industry provides the main source of income for the population of the two villages. The town of Tremont, however, shares the resort activities of Mount Desert Island and enjoys also a considerable boatyard and machine shop business. Good roads extend along either side of the harbor and connect with roads leading to other sections of the island and to the mainland, on which is located the nearest railroad connection at Ellsworth, about 25 miles distant.

BRIDGES

9. There are no bridges crossing any portion of the waterway under consideration in this report.

PRIOR REPORTS

10. There have been no prior reports for Bass Harbor proper. A survey report published in House Document No. 1128, 62nd Congress, 3rd Session, was favorable to the improvement of Bass Harbor Bar and Deer Island thoroughfare, and forms the basis of the existing project at Bass Harbor Bar.

EXISTING CORPS OF ENGINEERS' PROJECT

11. There is no Federal project for Bass Harbor proper. The existing project for Bass Harbor Bar was adopted by the River and

Harbor Act of March 4, 1913 and was completed during the same year. Bass Harbor Bar extends southward from Bass Harbor Head to Great Gott Island. The existing project provides for a channel 250 feet wide and 14 feet deep across the bar a short distance south of Bass Harbor Head. This channel affords a short cut for coastwise vessels skirting the southern shore of Mount Desert Island and does not otherwise affect Bass Harbor which lies to the northwest. Federal expenditures for the improvement of Bass Harbor Bar to date total \$7,494 of which \$4,076 has been expended for new work and \$3,418 for maintenance, last performed in 1920.

LOCAL COOPERATION ON EXISTING AND PRIOR PROJECTS

12. No conditions of local cooperation were prescribed for the existing project at Bass Harbor Bar.

OTHER IMPROVEMENTS

13. No improvements for the benefit of general navigation have been made by other interests in Bass Harbor other than the provision of private landings by local interests.

TERMINAL AND TRANSFER FACILITIES

14. Several wharves and boat servicing facilities are located in Bass Harbor. The two largest wharves, with depths of 8 to 10 feet alongside, are located on the east side of the harbor at the entrance to the inner harbor, and serve large fish canneries and lobster dealers. The remaining fish wharves in the harbor are located on the west side and have depths of from 2 to 4 feet alongside. A boat shop provided with a small wharf is located on the west side of the harbor a short distance south of Johns Island. A second boatyard where boats up to 65 feet in length and 9 feet draft are constructed is located on the east side of the outer harbor about 1,200 feet south of the entrance to the inner harbor. The wharf at this boatyard has depths of 10 to 12 feet available alongside. This wharf, in addition to being used in connection with the boat building business, is used by the ferry boat which carries freight and mail to outlying islands. Although no public landings are presently available at Bass Harbor, access to all wharves is allowed to all boats by private owners. Gasoline and provisions are available in the harbor.

15. The construction of additional facilities and the improvement of the existing facilities is contemplated if the desired navigation improvements are effected. Local interests anticipate the construction of a public landing on the east side of the inner harbor and consider the possible construction of a second public landing on the west side. The construction of a new fish plant on the west side of the harbor appears reasonably assured and further wharf construction and plant expansion is anticipated.

IMPROVEMENT DESIRED

16. A public hearing was held at Tremont Town Hall, Bernard, Maine, on August 29, 1956 to determine the nature and extent of the improvements desired by local interests and to give interested parties an opportunity to be heard. The hearing was attended by representatives of the local government, the fishing industry and by other local business interests. Attendance at the hearing totaled approximately 60 persons.

17. Local interests expressed a desire for anchorage areas of adequate depth and size to provide for the substantial permanent and transient fishing fleets which use the harbor. A representative for a committee of the Tremont Chamber of Commerce outlined a plan for dredging to depths of 6 and 10 feet the inner harbor between a line at the north extending through Dix Point and the southern end of Sawyers Island to the shores on either side, and a line at the south extending across the entrance to the inner harbor from the end of Try House Point to the William Underwood wharf. In addition, desire was expressed for the construction of a bulkhead on the east side of the harbor along a line extending from some point on the Powers and Robinson property to a point near the William Thurston property.

18. The desired improvements outlined by the Chamber of Commerce committee would provide an anchorage in the inner harbor with an area of over 100 acres. At the present time a bar extends northwesterly from the point of land on which is located the Powers and Robinson machine shop. The contemplated dredging would provide depths of 6 feet at mean low water on the west side of the harbor below this bar and on both sides of the harbor above the bar, and depths of 10 feet at mean low water on the east side of the harbor below the bar. Local interests state that the bar referred to is shoaling rapidly, constitutes a hazard and occupies much needed mooring space.

19. Local interests stated that substantial areas of the harbor now are obstructed by silt and provide inadequate depths for the existing permanent and transient fishing fleets. The proposed improvements, it was claimed, would provide benefits accruing from the elimination of tidal delays, from the provision of a channel which would afford access to individual wharves, and from the elimination of overcrowded mooring conditions that presently obstruct clear passage to existing terminals and cause anchored boats to ground out at low tides. Local interests stated that the 10-foot area proposed was necessary inasmuch as this eastern section of the harbor is exposed to the sea from the southwest. Vessels anchored in this area therefore need greater depth to avoid grounding at low tide in rough weather.

20. Local interests expressed the belief that the desired improvement of the harbor would bring about substantial increases in the permanent fishing fleet using the harbor and in the fishing industry of the

harbor itself. One spokesman for the fishing industry estimated that the desired improvement would increase the commercial fishing fleet of the harbor by 21 lobster boats of size and value comparable to those of the present lobster fleet. Such boats range from 26 to 34 feet in length and are valued from \$2,000 to \$6,000 each. Under present conditions a substantial number of local fishermen now moor their boats in the unprotected waters of Duck Cove, Goose Cove and Seal Cove. These are small coves located on the southwesterly side of Mount Desert Island, a relatively short distance from Bass Harbor but providing no facilities either for marketing the fish catch or for purchasing gasoline or supplies. These fishermen have reported, it is claimed, that they would use Bass Harbor if it were improved so as to provide mooring berths for them. In addition, local interests claim that fishermen now operating from harbors on the outer islands nearby would move to Bass Harbor were the desired improvement provided. At the present time these fishermen maintain their cars on Mount Desert Island in the vicinity of Bass Harbor and use the villages of McKinley and Bernard as their shopping center. In addition, local interests estimate that 3 new sardine carriers, costing upwards of \$40,000 each will shortly be needed to replace these now in the service of local factories and that their size and design will depend upon the nature of the harbor improvement. It is likewise claimed that the desired improvement would encourage an increase in fish landings by larger draggers carrying catches not large enough to warrant the long trip to Rockland and Portland or Boston.

21. Representatives of several individual boat servicing concerns and fishing companies stated that provision of the desired improvement would either facilitate or encourage expansion of their facilities. The owner of the Bass Harbor Boat Shop stated that dredging of the harbor would enable him to expand his boat servicing facilities, inasmuch as additional mooring space for transient craft would be available. A representative of the Power and Robinson Machine and Repair Shop stated that his company had expanded their space by 1,000 square feet in 1956, plans further additions within the year, and would expect to construct a landing for its customers if the desired improvement were effected.

22. The owner of the Bass Harbor Fish Company stated that he anticipates the construction of a commercial fish pier at an estimated cost of \$40,000 to \$50,000 leading to an annual business valued at \$200,000 a year provided the harbor is dredged. The superintendent of Machiasport Canning Company stated that he expected his company would expand their factory wharf if the desired improvement were provided. Similarly the C. H. Rich Company stated its intention to expand its lobster and crabbing fleet provided improvement is made. A representative of the F. W. Thurston Company stated that at the present time the company's business has increased substantially and that more length on their wharf is necessary at the present time. However, in order to extend the wharf it would be necessary to move several boats now partially blocking passage to it at their present moorings, but since no

additional mooring space is available for these boats until improvements are made, it was stated that no expansion at this time is considered possible.

23. The advantages of Bass Harbor as a harbor of refuge for recreational craft were stressed by a member of the Cruising Club of America. This representative stated that dredging of the inner harbor would increase Bass Harbor's natural advantages as a harbor of refuge and as a stop-over point for the purchase of supplies by the constantly increasing number of yachtsmen cruising the Maine coast.

24. The advantages of the harbor as a base and refuge for transient craft were cited in a letter submitted by the Woodbury & Company, Inc. This letter observed the desired improvement would make the inner harbor an excellent harbor of refuge for transient craft as well as a safe and adequate base for fishing craft.

COMMERCE

25. The principal commercial activities of Bass Harbor are fishing, lobstering, and canning and accompanying facilities for the repair of boats, marine equipment and marine radios. The 1955 fishing commerce for the harbor, according to the records of the North Atlantic Statistical Region, totaled over 1,400 tons of fish products and 100 tons of inedible animal products. This constitutes approximately 10 percent of the total fishing commerce reported by the Maine register during the year for Hancock County, where Bass Harbor is situated. At the public hearing local interests reported that in addition during 1955 over a million pounds of lobsters were landed and sold at Bass Harbor at a net value to the lobster fishermen of \$400,000; and that approximately three million pounds of Canadian lobsters were landed in the harbor for trans-shipment.

26. The larger species of fish were formerly handled in Bass Harbor by the C. H. Rice Company, whose wharf was located on the northwest side of the inner harbor. Since the destruction of this wharf by fire, fish and scallop draggers have been obliged to transport their catches to other ports for lack of a buyer at Bass Harbor. Line trawlers operating from Bass Harbor have been selling their fish to a company which sends a carrier to Bass Harbor. Local interests report that between January and August of 1956 the total catch of line trawlers operating out of the harbor amounted to approximately 850,000 pounds of fish valued at approximately \$25,000. Local interests further estimate that the 1956 pack of Maine sardines at Bass Harbor would exceed 100,000 cases.

27. Commercial establishments directly dependent upon navigational facilities at Bass Harbor consist of 2 lobster companies, 2 fish packing plants, a boat shop and a marine engine shop. Figures presented at the public hearing indicate that the total annual gross business of these concerns approximates \$1,500,000. In addition to these companies, there

are located at Bass Harbor 3 marine radio companies servicing a substantial number of boats. One of these companies is the only factory representative north of Portland.

28. The Bay Ferry conducts a freight and mail service between Bass Harbor and Frenchboro and Swans Island. The ferry handles an estimated 300 tons of commerce yearly.

VESSEL TRAFFIC

29. The permanent commercial fishing fleet of Bass Harbor consists of 70 lobster boats, scallopers and draggers, the bulk of these being lobster boats. The total estimated value of the fleet is approximately \$290,000. Craft vary from 24 to 71 feet in length and from 1.5 to 8 feet draft. Lobster boats operating out of the harbor generally sell their catch in Bass Harbor. Scallopers and draggers generally sell their catches elsewhere. During the late spring it has been the practice in Bass Harbor to convert part of the lobster fleet for trawl fishing, provided a market can be found for the fish, principally hake.

30. Lobster boats in the permanent Bass Harbor fleet average 160 ten-hour trips per boat annually. The portion of the lobster fleet which is converted for trawl fishing during the spring averages 40 trips per boat during the season, the duration of the trips varying from 12 to 14 hours if the fish is marketed in Bass Harbor and from 15 to 17 hours if it is marketed in Vinalhaven as it has been in recent years. Scallop boats based in the harbor average 70 trips per season with an average duration of 12 hours. The duration of trips made by sardine carriers varies from 3 to 48 hours depending upon the location of the fish.

31. In addition to the permanent fishing fleet using Bass Harbor considerable use is made of the harbor by transient fishing craft. Sixty lobster fishermen comprising the fleet of the outlying islands annually use the facilities of Bass Harbor for boat and engine repairs and for shopping and recreation. An average of 30 herring seiners use the harbor during the season, many of them making Bass Harbor their base during the herring run in this area and utilizing the repair facilities. An estimated 25 sardine carriers and 12 medium and large draggers annually use the harbor and obtain supplies there. About 60 coastwise lobster smacks unload their catches at Bass Harbor for trans-shipment.

32. At the present time there is a small recreational fleet in the harbor consisting of 5 boats ranging from 16 to 24 feet in length and from 1 to 2 feet draft with a total value of approximately \$8,500. In addition, an estimated 30 yachts and cruise schooners visit the harbor annually.

33. Local interests estimate that if the desired improvement in the harbor were provided the permanent fishing fleet would be increased

by 24 fishing craft and that the present recreational fleet would be increased by 1 recreational vessel, the latter valued at \$6,000. In addition, local interests report that the transfer of 1 other recreational craft is anticipated if the desired improvements are made. Transient recreational craft visiting the harbor are expected to double if improvements are provided.

DIFFICULTIES ATTENDING NAVIGATION

34. The principal difficulties attending navigation in Bass Harbor are those resulting from lack of adequate mooring space consequent upon the shoaling of the inner harbor, and from tidal delays. At the present time boats of 5-foot draft or greater cannot enter the northern portion of the inner harbor within an hour either side of low water. An inner tier of closely moored lobster boats on the southwest side of the harbor is aground at low tide. The west side of the harbor can be utilized only by highly maneuverable craft because of crowded moorings. A bar located at the east side of the entrance to the inner harbor can be passed only with local knowledge and only by light draft vessels within an hour or more of flood tide. On the east side of the harbor a southwest wind in combination with an ebb current turns boats broadside to the chop causing them to roll uncomfortably. Boats, particularly in this area, are frequently damaged during severe storms, especially from the southwest, since combinations of wind and tide often bring the closely moored craft together as they swing, with resulting vessel damage.

WATER POWER AND OTHER SPECIAL SUBJECTS

35. This investigation presents no problems pertaining to water power, flood control, pollution or related subjects. The desired improvement would have no adverse effect on wild life or shellfish.

SHORELINE CHANGES

36. The proposed dredging in Bass Harbor would have no affect on the shoreline of the existing harbor. Were local interests to construct the bulkhead for which they expressed a desire the shoreline north of the Machiasport Canning Company would be extended about 200 feet harborward for a distance of 600 feet north and south.

DISCUSSION

37. Bass Harbor is a small harbor located on the southwestern side of Mount Desert Island at the eastern side of the entrance to Blue Hill Bay in the town of Tremont, Maine. The harbor lies about 7 miles by water southwest of Southwest Harbor.

38. Bass Harbor consists of an outer and inner harbor; depths in the outer harbor range from 30 to 46 feet except for Weaver Ledge located in the middle of the entrance and bare at low water. The ledge is buoyed and the channel on either side has ample depth. The inner harbor has a total area of about 200 acres of which approximately 75 percent is bare at low water. A crooked channel varying from 100 to 300 feet in width with depths of 6 to 26 feet extends from the mouth of the harbor northward between shoals close to either side.

39. The outer harbor is exposed to the south; the inner harbor is well protected providing a sheltered anchorage for fishing craft and other vessels.

40. There is no existing Federal project at Bass Harbor proper. The existing Federal project for Bass Harbor Bar, adopted and completed in 1913, provides for a channel 14 feet deep and 250 feet wide across Bass Harbor Bar, which extends southward from Bass Harbor Head to Great Gott Island. This project affords a short cut for coastwise vessels skirting the southern shore of Mount Desert Island but does not affect Bass Harbor itself which lies about two miles to the northwest.

41. At a public hearing held in Tremont Town Hall on August 29, 1956, local interests expressed a desire for dredging of the harbor to depths of 6 and 10 feet to provide more adequate anchorage space. Local interests proposed dredging an area of approximately 100 acres extending between a line on the north which would run through Dix Point and the southern end of Sawyers Island to the shores on either side and a line on the south running from the end of Try House Point to the William Underwood wharf.

42. Local interests also expressed a desire for the construction of a bulkhead on the east side of the harbor extending from some point to be established on the Power and Robinson property to a point near the William Thurston property. It was proposed that the area so bulkheaded would be hydraulically filled by dredged material and the newly formed land utilized for plant expansion. Inasmuch as the probability and practicability of this aspect of locally desired improvement is in doubt at this stage of the harbor study, no further consideration has been given to this item in this report. Should a survey study of Bass Harbor subsequently be authorized, further studies will be made in connection with the desire for the construction of the proposed bulkhead and the securing of necessary fill.

43. Present shoal conditions in the harbor result in substantial tidal delay to fishing and other craft and in considerably overcrowded mooring conditions that obstruct clear passage to existing terminal facilities. Existing depths in the harbor are inadequate to prevent some anchored craft from grounding out at low tide. In addition,

local interests claim that tidal currents now diverted by silted up portions of the harbor are particularly strong on the east side of the harbor. At times of combined southwest wind and ebb tide craft forced to anchor in this part of the harbor for want of other available space are turned broadside to the chop and subjected to an uncomfortable roll. During severe storms such closely moored craft are subject to damage as they swing on their moorings.

44. The protected character of Bass Harbor together with its proximity to fishing grounds makes it a desirable base of operations for a substantial number of fishermen. The inner harbor is sheltered from nearly all heavy storms and during the winter has long been a harbor of refuge for many fishing craft. Its location on the southern tip of Mount Desert Island places it very close to fishing grounds and it is easily accessible for shipment of canned fish products or of other fish and fish products landed here.

45. The provision of the desired improvement at Bass Harbor would result in benefits accruing from savings in operating expenses and fish handling costs by virtue of reduced congestion of the harbor, the elimination of tidal delays and the provision of a safe anchorage with consequent reduction of vessel damage. The provision of improved navigation facilities would further encourage greater use of the harbor and result in an increase in the fish and lobster commerce of the harbor. Since the major activity of the harbor is commercial fishing the benefits to be realized from this improvement would be largely general in nature.

CONCLUSIONS

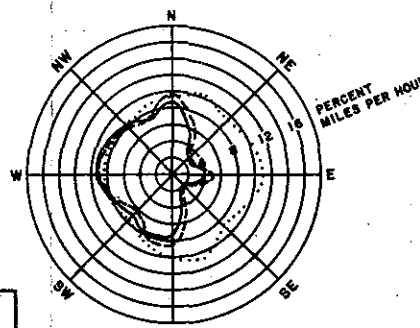
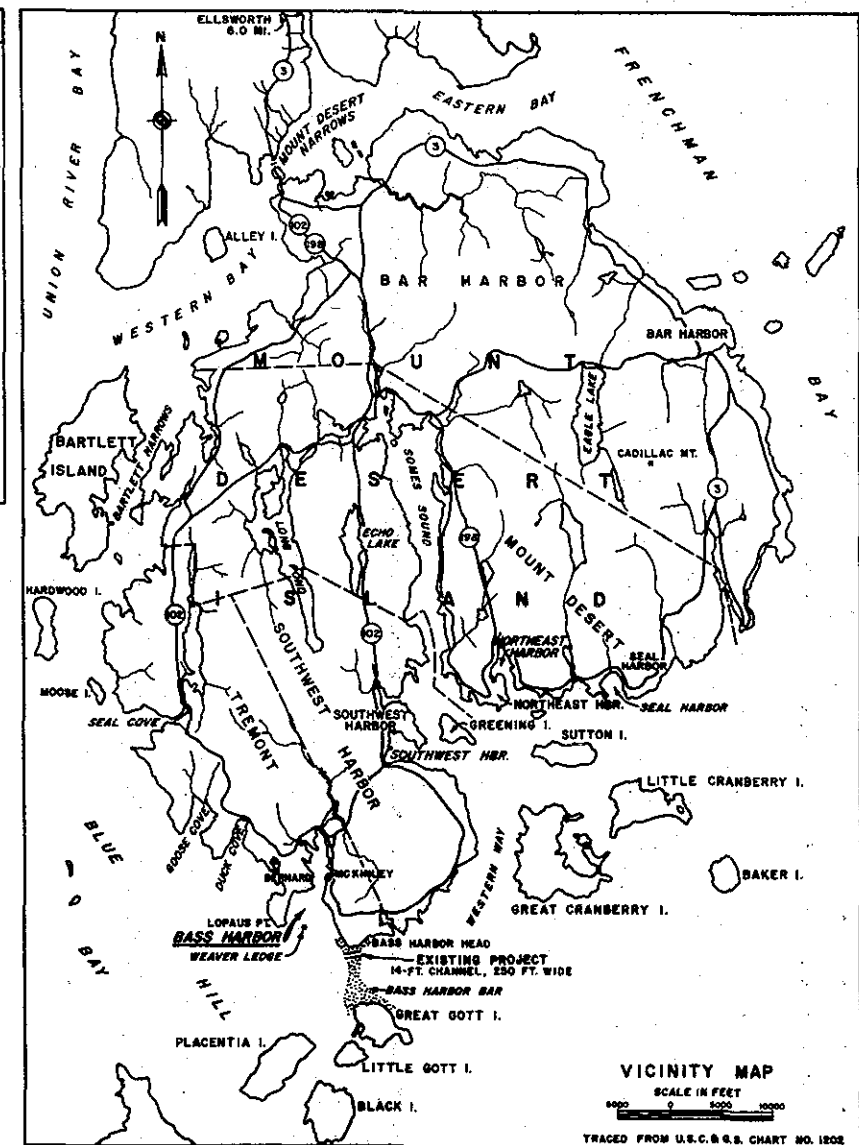
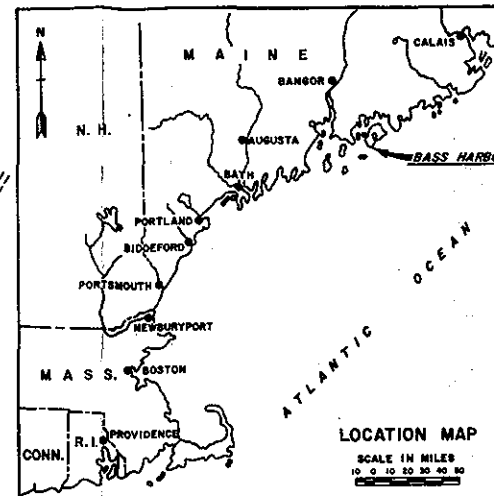
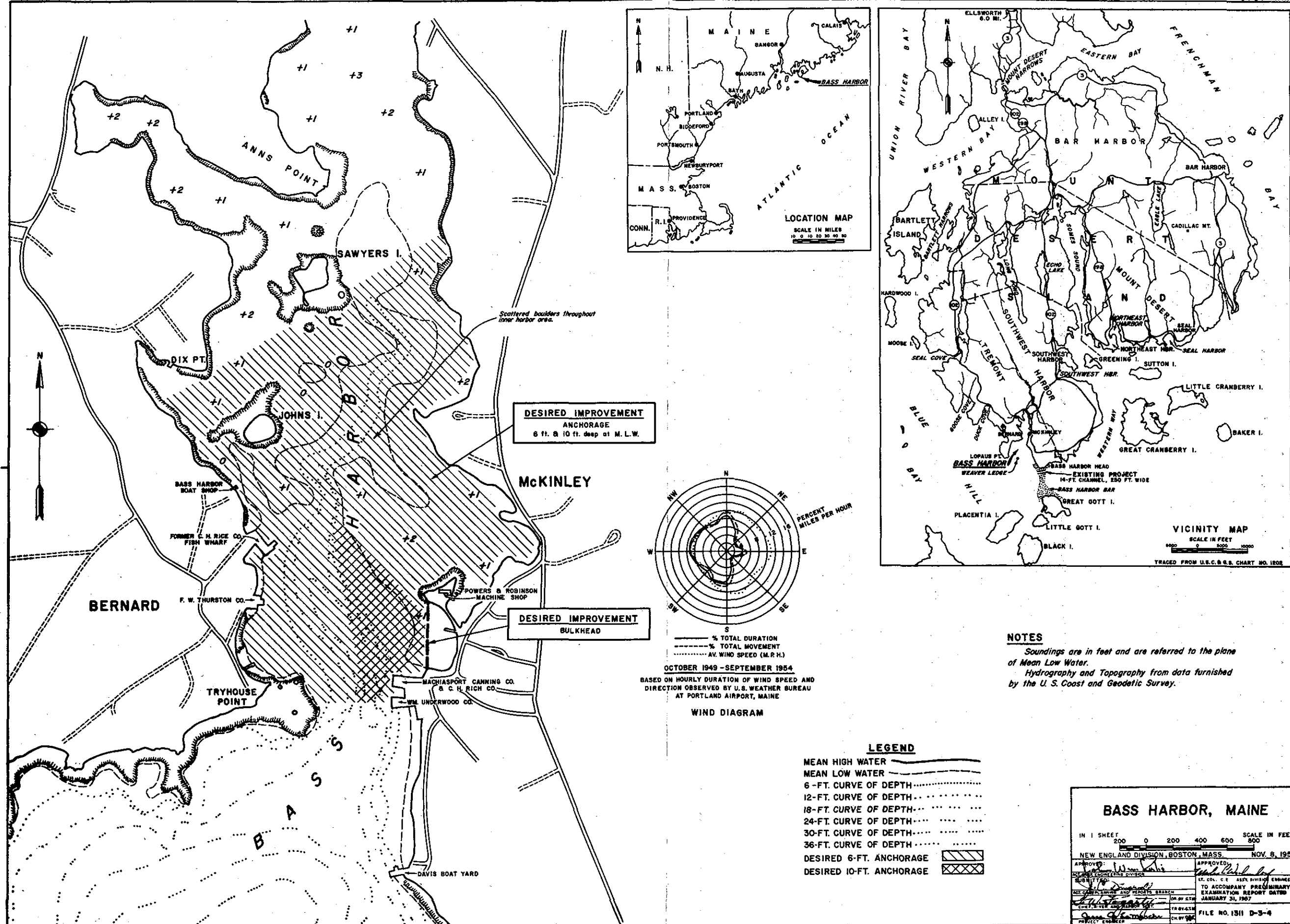
46. The provision of more adequate anchorage areas in Bass Harbor would reduce delays resulting from inadequate depth and from present overcrowded mooring conditions. It would further reduce vessel damage occurring as a result of overcrowded conditions and would provide a safe harbor of refuge for commercial fishing craft and pleasure craft. The hundred acre area proposed for dredging by local interests is considered much larger than required for the present and prospective fishing fleets. It is believed, however, that a fully adequate though considerably smaller anchorage may be developed in the harbor that will meet the navigational needs.

RECOMMENDATION

47. In view of the foregoing the Division Engineer recommends that a survey be made to determine the extent and cost of improvement warranted in Bass Harbor for commercial navigation and recreational craft.

Incl:
Map of Bass Harbor

ROBERT J. FLEMING, JR.
Brigadier General, U. S. Army
Division Engineer



NOTES

Soundings are in feet and are referred to the plane of Mean Low Water.
Hydrography and Topography from data furnished by the U. S. Coast and Geodetic Survey.

LEGEND

MEAN HIGH WATER
MEAN LOW WATER
6-FT. CURVE OF DEPTH
12-FT. CURVE OF DEPTH
18-FT. CURVE OF DEPTH
24-FT. CURVE OF DEPTH
30-FT. CURVE OF DEPTH
36-FT. CURVE OF DEPTH
DESIRED 6-FT. ANCHORAGE
DESIRED 10-FT. ANCHORAGE

BASS HARBOR, MAINE

IN 1 SHEET	200 0 200 400 600 800	SCALE IN FEET
NEW ENGLAND DIVISION, BOSTON, MASS.	NOV. 8, 1956	
APPROVED: <i>[Signature]</i>	APPROVED: <i>[Signature]</i>	
BY: <i>[Signature]</i>	BY: <i>[Signature]</i>	
TO ACCOMPANY PRELIMINARY EXAMINATION REPORT DATED JANUARY 31, 1957		
FILE NO. 1311 D-3-4		